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ABSTRACT

This paper represents a backdrop from which to consider the development of a planning and budgeting model for local education agencies. The first part of the presentation describes the demands and external pressures that affect resource allocation decisions in school districts. The ability of local school officials to link the cost consequences and implications of these policy and environmental pressures provides the rationale for designing the Local Planning and Budgeting Model (LPBM). The second part examines in detail the strengths, weaknesses, and performance of two well-known, previous budget reforms, Planning, Programming and Budgeting System (PPBS) and Zero-Based Budgeting (ZBB); and summarizes the lessons to be learned from these prior attempts to rationalize educational budgeting processes. The paper ends with a skeletal overview of the LPBM's conceptual framework and the implications from part II for the development of a strategy for implementing the LPBM in local school districts. A bibliography of 55 citations is appended. (Author)

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SCHOOL OF EDUCATION STANFORD UNIVERSITY

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John Krackett
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Abstract

This paper represents a backdrop from which to consider the development of a planning and budgeting model for local education agencies. The first part of the presentation describes the demands and external pressures which impact resource allocation decisions in school districts. The ability of local school officials to link the cost consequences and implications of these policy and environmental pressures provide the rationale for designing the Local Planning and Budgeting Model (LPBM). The second part examines in detail the strengths, weaknesses and performance of two well-known, previous budget reforms, Planning, Programming and Budgeting System (PPBS) and Zero-Based Budgeting (ZBB); and summarizes the lessons to be learned from these prior attempts to rationalize educational budgeting processes. The paper ends with a skeletal overview of the Local Planning and Budgeting Model's conceptual framework and the implications from part two for the development of a strategy for implementing the LPBM in local school districts.

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INTRODUCTION

There have been numerous attempts to develop new budgeting and planning procedures in public enterprises including education. Each of these attempts has had elements of success as well as failure. The purpose of the present paper is to examine the successes and failures of previous rational budgeting approaches such as Program Planning and Budgeting Systems (PPBS) and Zero Based Budgeting (ZBB), to explore how these models have been applied to the educational enterprise, and to outline an alternative approach to planning and budgeting that is informed by these lessons of the past. This kind of examination will provide a foundation from which to consider how new and alternative approaches might be designed to take advantage of the successes while avoiding the failures.

There are three major components to this paper. The first describes the rationale for the design of a local planning and budgeting model and briefly discusses the orientation and scope of the research project. The second employs a case-study format to examine two well-known predecessors to the proposed model, Program Planning and Budgeting Systems (PPBS) and Zero Based Budgeting (ZBB), and concludes with the lessons to be learned from these prior attempts to rationalize educational budgeting processes. The third section is devoted to outlining an alternative approach to the development and implementation of what we shall subsequently refer to as the Local Planning and Budgeting Model (or LPBM).

I. A RATIONALE FOR THE DESIGN OF A LOCAL PLANNING AND BUDGETING MODEL

A. Background

Legislatively mandated services, tax and expenditure limitations, collective bargaining agreements, inflationary trends, and enrollment decline all have serious implications for decisions regarding the allocation of school district budgets among educational programs, types of children and different resources. The Education for All Handicapped Childrens' Act of 1975 (PL 94-142) and similar state legislation have placed increased demands on local school districts for service provision without providing the funding necessary to carry out the mandate. Such service mandates have serious implications for the ability of the local educational agency to maintain programs for other student populations. Thus, districts have to seek ways to use existing funds more effectively. Similarly, the general trend toward tighter fiscal circumstances offers significant challenges to local district decision makers attempting to maintain the integrity of existing educational programs.

Districts in many parts of the country are facing significant enrollment changes along with substantial shifts in the composition of pupils according to educational need. In many urban districts the decline in population has been accompanied by increasing proportions of special need and hence high cost pupils (e.g., educationally disadvantaged or handicapped students). These declines may ultimately lead to consideration of school closings. Decisions regarding school closings involve assessment of what appropriate school sizes should be, what the costs of alternative configurations of schools might be, and what the prospects for further change in enrollment are. The assessments of appropriate school size must of necessity be linked to curriculum policies and educational goals since school size ultimately affects the composition and diversity of curriculum offerings and has potential effects on student participation in school activities, student attitudes and even perhaps achievement. Moreover, in school districts

suffering declining enrollment, policies of dismissing the teachers with least seniority first, result in an increase in the average age, and hence cost of the teaching force. Declining enrollments are also generally accompanied by at least some decline in the level of state support provided to the local district.

Inflationary pressures in combination with the growth of formal collective bargaining for teachers and other school employees have created additional sources of upward pressure on the costs of school district operation. Most states have legalized collective negotiations for public school teachers, and the majority of students in the U.S. attend school districts where teachers and other school employees are covered by formal bargaining agreements. Collective negotiations have potential cost consequences through direct effects on employee salary schedules and fringe benefits. Moreover, they have both direct and indirect effects on the flows of educational services through policies related to class sizes, teacher assignment, employee retention, and the constraints imposed on allocative decisions via the increased resource costs.

While facing these many challenges, local school districts are being confronted by a decline in public confidence, new demands for efficiency and accountability, increased interest in public support for private schools, and increasing competition from private schools that in some areas are attracting pupils away from beleaguered public school systems. Such demands create increased pressures for introducing new and more attractive educational programs, for bolstering the quality of existing programs, and generally for trying to determine alternative approaches to using funds more effectively. All of these problems and issues have significant implications for local decision making related to the allocation and utilization of school resources: that is, curriculum policy, program priorities and offerings, patterns of personnel assignment, and the need for and utilization of school

facilities. All involve cost consequences which affect the ability of local school districts to provide specific services.

Unfortunately, existing accounting conventions do not always provide information appropriate to assessing the cost consequences and service implications of policy and environmental changes. Historically, there has been little effort to link budgetary and fiscal decision making processes to decision making regarding educational programs and curriculum policy. School accounting and budgeting is generally organized by line-item categories related to administrative function rather than according to categories relevant for decision making (e.g., by substantive instructional program categories). Resources (e.g., teachers, administrators or expenditures on supplies and materials) are rarely linked to the programs in which they are utilized. Accounting procedures do not provide accurate cost estimates: depreciation costs are rarely explicitly treated; certain categories of school based personnel such as principals, clericals, and consultants are allocated to instructional rather than administrative accounts; and, teacher fringe benefits are included under separate accounts referred to as "fixed charges" along with insurance costs.

There has been little systematic attempt to attach costs to instructional programs or to determine the needs for administrative and support services generated by the existence of these programs. In order to appropriately cost out the introduction of new programs, it is important to deal explicitly with the cost of the program unit (e.g., the classroom) itself as well as to understand the patterns of administrative and support services required to service such programs. Present accounting frameworks do not consider costs by program but rather according to overall resource categories with little reference to program other than in the most general fashion (e.g., elementary or special education). Moreover, there is no formal structure that links administrative services to particular programs or collections of

programs. This prevents decision makers from understanding the full cost and service implications related to the introduction, or for that matter elimination, of instructional programs.

School districts facing these decisions are going to require increasingly more sophisticated and comprehensive planning tools to assist them in determining the cost consequences and implications for service delivery of policy and environmental changes. What is necessary is a highly structured, though flexible, planning model that will enhance the ability of local decision makers to observe the linkages between educational outcomes, program offerings, curriculum policy, the patterns of resource allocation, and the costs of services.

The model needs to be based on the programs and services provided directly to the children being served with systematic linkages to the administrative and support requirements of these programs and services. In order to make informed judgements about budgets, local administrators must first know what the alternative investments strategies look like in terms of the ingredients and their costs. Only then can they begin to identify input/output relationships for the purpose of assessing the effectiveness of the alternative strategies. It is desirable to link budgetary decisions to program and curriculum policy decisions. The importance of this kind of planning model is that it has the potential for improving economic decisions as well as political judgements by setting out very systematically the cost consequences and service implications of various educational investment strategies. The cost and service trade-offs become immediately apparent to decision makers. Moreover, it would enable districts to develop systematic long term plans for services, to project their future resource requirements, and to link these plans and projections to substantive decisions related to educational programs and curriculum.

B. Project Objectives

This paper is designed to serve as a background piece for the initiation of a research project directed toward the development of local planning and budgeting models for educational agencies. The specific purposes of the research project are as follows:

(1) to assess the decision making needs of local public school districts;

(2) to develop a model of the decision making process;

(3) to ascertain the types of information and calculations required to address local needs;

(4) to develop a simulation model consistent and compatible with the decision making model; and

(5) to determine how best to implement such an overall planning model for local school districts.

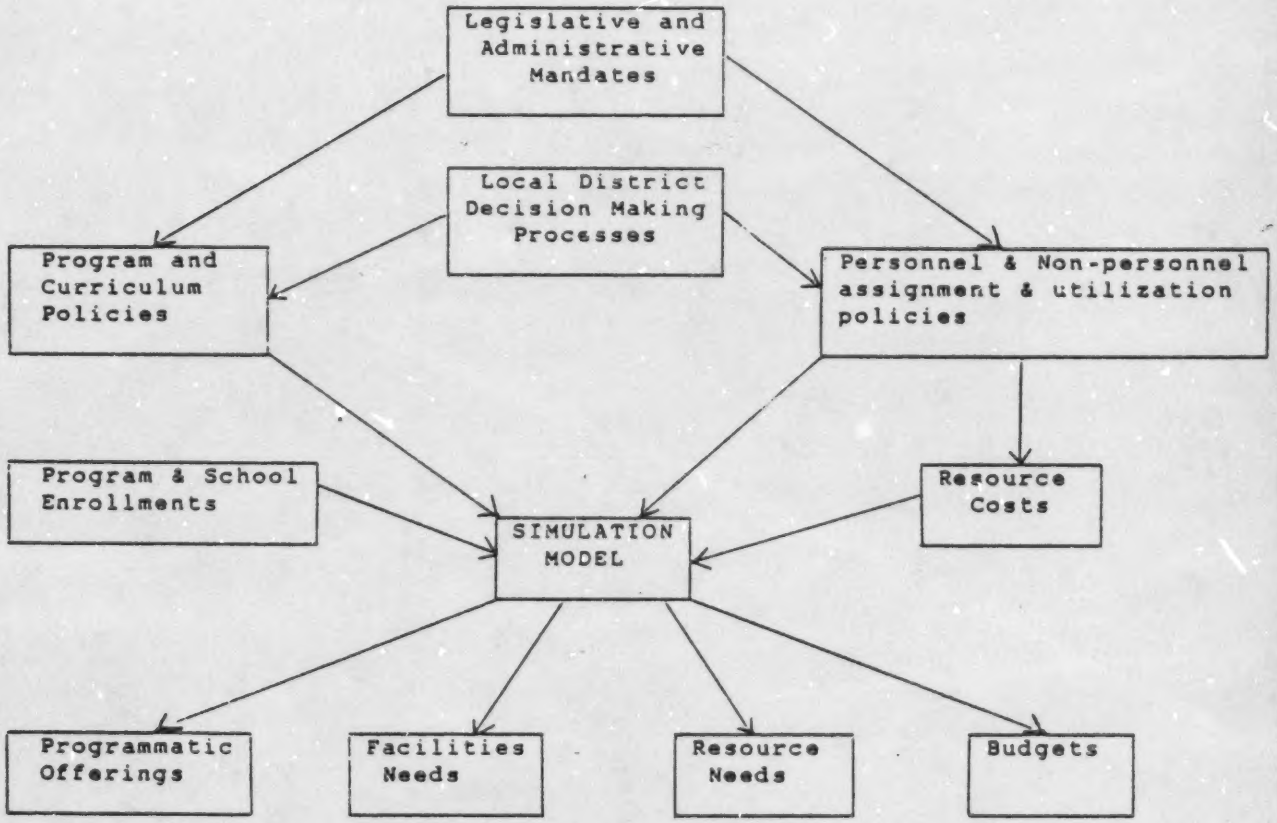
The focus of the project will be to develop a structure for organizing information on certain allocative decisions made by local school districts and to design a decision making process compatible with that structure. The information structure will be designed to provide a linkage between budgetary and fiscal decisions on the one hand and educational program and curriculum policies on the other. One of the outcomes of this project will be a simulation model of budget allocation for local public school districts. The model will be designed to assist local school decision makers in projecting the cost and service implications of particular policy and environmental changes. The model will permit cost projections for alternative policies and will be decision oriented. Our ultimate purpose will be to select particular decision oriented problems, break them down into feasible alternative strategies, stipulate the types of resources that would be required or that could be relinquished to implement each alternative, and estimate the cost and service implications of each alternative by appropriately attaching costs to each of the resources.

Figure 1 is a diagram of the kind of model we will be trying to formalize as part of this project. The decision making processes yield policies on programs and curriculum and on the assignment and utilization of personnel and non-personnel resources. Legislative or administrative mandates represent an external force affecting both programs and resource utilization. The resource utilization policies translate into resource costs and these costs combine with program and curricular policies in the planning model. District enrollment patterns (total and composition) are determined exogenously to the model and become input into the planning model. Outcomes of the model include programmatic offerings, configurations of facilities, resource needs, and budgets.

This project will go beyond simply the development of a simulation model. It will also be directed toward the development of a decision making process which is compatible with the informational structure underlying the simulation model. In order for the simulation model to be decision oriented, it is necessary that it be integrated with a specific decision making process. It is anticipated that this decision making process will be specified as a series of committees each with designated responsibilities in making judgements about curriculum policy, program and service delivery, and budget allocation. One of the objectives in the design of the models will be to develop explicit linkages between budgetary decisions and curriculum or program policies.

Figure 1

Planning Model for Local School Districts



The decision making and simulation models developed as part of this project will be designed to address a wide range of substantive policy issues confronted by local district officials. The models will be designed to assist districts in planning by projecting resource requirements both currently and in the future. The models will allow decision makers to trace the effects of changes in total enrollments, enrollment composition with respect to educational needs, school size, legislative or administrative mandates for services, and state and federal budget cutbacks on total and per pupil program costs, total and per pupil resource (input) requirements, and the composition of program and curricular offerings. Furthermore, the model will provide a decision making process by which local school officials can reassess their budget allocation decisions in relation to these changes in economic and demographic variables, will hopefully provide a basis for assessing the effects of such changes on programs and program "quality." It is intended that the processes by which resource allocation and curricular policy decisions are made will facilitate and stimulate (although not require) the desire and need for program evaluation in relation to physical and dollar resources.

We believe that the orientation described above and the methodology, which will be introduced in a later section of this paper, represent a unique approach to educational resource allocation. The full extent of this approach would not have been possible prior to the computer era. However, this is not the first attempt to introduce reform to educational budgeting through the introduction of rational processes. Thus, prior to embarking on the type of project described above, we turn to prior attempts to introduce rationality into educational budgeting processes in an attempt to inform the development and implementation of a Local Planning and Budgeting Model (LPBM).

II. PRIOR RATIONAL BUDGETARY REFORM MODELS

A. Introduction

Allen Schick has identified three successive stages of budget reform. (Schick 1967, 30). The first, dating roughly from 1920-1935, emphasized the development of an adequate system of expenditure control. To improve efficiency and provide a way of handling expenditures in federal agencies, the Budget and Accounting Act of 1921 was passed. While planning and management concerns were not ignored, the highest priority of this era was the development of "a reliable system of expenditure accounts" (Schick, 1966). The result was an instrument which specified the objects for which expenditures are made. This is typically referred to as a "line item" budget.

The second stage was associated with the New Deal of the 1930s. With the broadening of government responsibilities came a shift from the control orientation to one of management orientation. With controls in place, budgeting was freed from "some of its watchdog chores." The expansion of objects that were itemized created the need for central management of the "incohesive sprawl of administrative agencies." The budget became a means for appraisal and improvement of administrative performance and techniques of work measurement were developed. In keeping with this reform movement, the Hoover Commission in 1949, recommended a reclassification of the federal budget. Emphasis was placed on the functions or activities supported by an expenditure as the basis for the budget. The Commission labeled this reform, "performance budgeting," to reflect its management orientation.

The third phase of budget reform, according to Schick, was the emergence of the Planning and Programming Budget System (PPBS). Writing early in the development stages of PPBS, he saw the full emergence of this phase in place only after the institutionalization of PPBS. With a healthy, growing economy in the 1960s, many management problems

focused on the choice of potential new programs. Thus, planning became an important function for allocating abundant resources. PPBS, with its need for additional staff, employment of more technical analysis of cost benefits and expanded conceptualization of the budget process, reflects the political and economic well being of the country.

Although Schick's analysis ends with the third phase, reform continued. Increased demands for accountability in the late 1960s and early 1970s led to the development of such management systems as Program Evaluation Review Technique (PERT), Management by Objectives (MBO), Social Indicators (SI) and Management Information System (MIS). More recently, the declining economy coupled with increasing competition for scarce resources spawned the popularity of the Zero Base Budgeting concept (ZBB).

With each of those reforms or managerial innovations, the potential benefits were exaggerated and implementation offered as a panacea for many institutional or program-centered problems (Haeder,405). This often lead to disillusionment when drastic change or immediate improvements were not seen. In addition, over fifty years of budgeting tradition has set routines and habits which are difficult for potential reform measures to overcome. This resistance is set in what Schick refers to as a "Budgetocracy" (Schick 1971, 193).

The inability to overcome this resistance has led to the downfall of many of the innovations mentioned above. It is difficult to posit complete failure or success of any of these innovations. Those implemented at the Federal level, such as PPBS and ZBB, attract more attention and when phased out there is a temptation to label the attempt a failure. Yet the residue left by each may be most indicative of their benefits. For example, PPBS was officially discarded by the federal Office of Management & Budget in 1971, yet the planning function which was a central feature of the system remains an integral

facet of most existing budgeting processes.

At the same time, implementation alone is not a sufficient criterion for success. In many cases, the system was put in place by top officials, while those at the operative level continued to follow previous routines. Information reporting systems were put in place and shifts in the power structure, to the extent necessary to secure compliance with mandates for implementation, were observed in many governmental agencies (Wildavsky 1966, 302). As with implementing any change, the acceptance of the innovation by those at the operative level is imperative to success. However, new procedures always face problems because of the inertia and the vested interests that exist in past policies (Wildavsky 1975, 355-6).

The arguments made by proponents and critics of earlier managerial or budgetary innovation provides a wealth of information from which to embark on the development of yet another system. As Wildavsky posits, to ignore history is to increase sources of error while decreasing the chances of correcting mistakes. "Doing without history is a little like abolishing memory - momentarily convenient, perhaps - but ultimately embarrassing," (Wildavsky 1979, 38). The legacy of the conceptual, political, logistical and practical strengths and weaknesses of earlier systems is especially important in informing the design of a new model for school district budgeting and planning.

Since the proposed model is an allocative decision making process, the review of previous systems will be limited to PPBS and ZBB. Both methods relate planning and programs to the budgeting process: each rose in popularity within public sector institutions; each has been implemented in local school districts; and each is a product of a unique political and fiscal milieu. This is not to imply that the characteristics of other reforms are ignored. MBO was perceived as more of a personnel and accountability tool than a budgeting

methodology; PERT was viewed as being limited to planning and performance budgeting and is dated in applicability. Other models have not received the acceptance necessary to have a sufficient literature develop about them.

B. Planning Programming & Budgeting System

1. Overview

When Robert S. McNamara became Secretary of Defense in 1961, he stated that the development of "essential management tools needed to make sound decisions on the really crucial issues of national security," was his most important problem (McNamara 1968, 88). McNamara brought several individuals from the RAND Corporation with him to the Department of Defense (DoD). The significance of this lies in the fact that RAND had completed a special study of resource allocation decisions in the DoD in the late 1950s. The result of this study, attributed to economist David Novick and Charles Hitch, was a system for linking planning to budgeting. McNamara initiated the system (by then known as Planning Programming and Budgeting System or PPBS) in the DoD.

Impressed with the performance of PPBS in Defense, President Johnson announced in August, 1965 that this revolutionary budgeting system would be applied to all federal agencies. The President's action ignited a massive reform movement that would touch all levels of government in the country (Lee & Johnson 1977, 94). The International City Managers' Association, the United States Conference of Mayors and the National Governors' Council advocated the implementation of PPBS. In 1966, the Ford Foundation funded the State-Local Finance Project which selected five cities, counties and states as demonstration centers for the system. Parts of PPBS found their way into the private sector as well.

As in state and local governments, program budgeting in education generally followed and was influenced by practices in the federal government (Knezevich 1973, 22). It was not uncommon in the mid-60s for PPBS to be one of the "strings" attached to federal support to schools. Probably the most widely publicized effort at implementing PPBS in the public schools occurred in Dade County, Florida, in 1968. Operating with a sizable federal grant, and in conjunction with the Research Corporation of The Association of School Business Officials, Dade County implemented the concepts and techniques of PPBS. This provided a stimulus for dissemination throughout the nation's schools (Knezevich 1973, 25). By the early 1970s, districts such as Chicago, New York, Memphis, Sacramento, Las Vegas and Los Angeles had revised their budgeting procedures to include what each defined as PPBS in education.

Wildavsky (1975) notes:

> In the 1960's PPBS spread with amazing rapidity ... to many American cities and states, governments abroad and international agencies. Clearly from the standpoint of effort and publicity, PPBS is the major budgetary phenomenon of our time. Hence it needs and deserves attention" (Wildavsky 1975, 275).

Yet, with all the effort and publicity, history shows that PPBS did not live up to the potential touted by its early proponents. Post mortems appeared with regularity. In June, 1971, the Office of Management and Budget quietly pronounced PPBS dead at the federal level. By the end of the 1960s it was hard to identify any PPBS systems at the state and local level. (Lee & Johnson 1977, 102). In 1970, programmed budgeting systems in California and New York State were abandoned.

In education, the trend is best exemplified by the course of events in California. In 1966, the legislature established a citizens' commission to facilitate the installation of PPBS in the state's 1,056 school districts. By 1972, the legislature made a 180 degree turn and abandoned PPBS at a cost of several million dollars (Kirst 1975, 535). Thus the general feeling by the early 1970s was that PPBS was an interesting but unsuccessful experiment (Lee & Johnson 1977, 108). It would be inviting to examine only the reasons for its demise, yet it is important that its strengths and contributions not be overlooked. Prior to this analysis, however, a brief description of how PPBS was applied to education will be presented.

2. Description

Many different things were done in the name of PPBS in the education sector (Lee & Johnson 1977, 79). Knezevich defines PPBS in education as a decision system designed to improve resource allocation decisions when a school district is faced with competing objectives and limited resources (Knezevich 1973, 10).

PPBS includes seven major elements. First, the school district must identify and clearly define its mission, goals and objectives, i.e. its desired outcomes. Then a set of alternative approaches for achieving these outcomes is specified. Step one is the planning element, step two the programming element. These lead to the budgeting step where the programs are translated into fiscal and non-fiscal requirements. This includes planned expenditures and proposed revenue sources for a program, not only for a single budget cycle but for a multi-year period. Step four involves analyzing each alternative approach to determine the cost-effectivness of each. It is then possible to select the best combination of programs to determine the optimum course of action for the district. At this point, the summative evaluation process begins. Each program is reviewed and an assessment is made of the degree to which the desired outcomes were

achieved. The final step uses these evaluative program reports to feed back into the system, thus beginning a new cycle.

By its nature, PPBS is a top-down decision making system. At the federal and state level, additional and specialized staff were necessary to implement the plan. This was true for several educational institutions as well. Yet in many cases, school districts relied on existing staff to put the system in place. Being top-down, management had to be completely convinced of its value, as well as supportive in allocating sufficient resources to facilitate success. Given its complexity and high level resource needs, what were the strengths or potential benefits of PPBS that caused it to be one of the most popular, yet ill-fated budget reforms in history?

3. Strengths

From its beginning PPBS was an attempt to link planning to the budgeting process. It was believed that budgeting could be improved by incorporating features of planning. Budgeting was limited in vision to the short run; planning provided the long-term perspective. In short, planning would bring the rationality of the overall perspective to budgeting and replace the haphazard results which characterized the existing systems (Wildavsky 1975, 255). To the extent that the implementation of PPBS initiated a planning focus, the system must be considered a valuable innovation.

PPBS is a means for strengthening the institution's capability to do long-range planning. Many, if not all, of the decisions of allocating resources will have future implications and consequently imply future commitments (Hatry & Cotton 1967, 19) Thus, a single year is too short a period for arriving at optimum decisions. In PPBS, the future implications of actions taken must be explicitly defined (Knezevich 1973, 33). Adding this multi-year facet to budgeting becomes an important outcome of the process. While PPBS may not be evident in

institutions today, long range planning in the form of multi-year outlines of objectives and needs have become a common part of the managerial process.

The accountability movement of the 1970s helped the rise of PPBS across the country. The public began placing unprecedented demands on education. Public school administrators and boards of education felt immense pressure to delineate outcomes, assign responsibility for achieving them and assess whether organizational goals or objectives were being attained. PPBS was viewed as a panacea for relieving these pressures.

The focus of accountability is on outcomes, and PPBS stresses a similar perspective. PPBS stresses performance and achievement of objectives. For this reason it was seen as part of an overall accountability system and a means for bringing greater accountability into the operation of educational systems (Knezevich 1973, 59).

It has been said that the cornerstone of PPBS is the identification and analysis of alternative means for attaining desired outcomes (Hatry & Cotton 1967, 25). By making an administrator aware of the full range of available options, PPBS provides a linkage to a rational decision making model (Allison 1971). Irrespective of whether the institution operates in a PPBS mode, most administrators hope to consider the possible impact of alternative courses of action prior to making a rational decision. As David Novick, one of the pioneers of PPBS at RAND, said the name of the game in PPBS is alternatives. Thus, the structural design of the system insures that an administrator evaluate several options for which strategies, goals and costs have been specified.

PPBS is an outcome oriented management system. As such, it requires the determination of where to go, prior to defining how to get

there. In the process much of the doubt that exists in conventional budgeting systems concerning the justification of inputs is removed. Since programs are directly linked to outcomes, the specification of activities and resources into a programatic structure clearly allows inputs to be tracked to outcomes.

As mentioned earlier, PPBS is a product of its time. When the nation's economy was healthy and growth was taken for granted, many of the agencies of the government faced decisions on how to best spend their new funds. It was not a matter of whether to fund project A or project B, but of selecting the best approach for funding projects A and B. PPBS was the tool for conceiving, developing and costing the new projects (DeWoolfson 1981, 393). It helped governmental agencies cope with growth.

The benefits of PPBS presented here are those which might result if fully implemented. Examples of such situations were rare. It may have been difficult to argue with the conceptual framework of PPBS, yet as will be shown below, the discrepancy between concept and reality was great. Success was rare. Wildavsky states unequivocably, "PPBS has failed everywhere and at all times." (Wildavsky 1975, 363). Yet from its popularity and its rapid spread throughout the country, its impact cannot be repudiated. Quite possibly its greatest impact is best decribed by Allen Schick;

> ...PPBS's main accomplishment thus far has been to raise the level of expectation far above what it was a few years ago. The prevailing standard of 'good enough' has been redefined, as budget participants have been exposed to PPBS's criticism of the established order and its criteria for public choice. (Schick 1971, 116).

4. Weaknesses

After ten years, the existence of a comprehensive PPBS system in an institution was rare. The literature became filled with the arguments of skeptics, critics and out-right opponents of PPBS (See Wildavsky 1975; Schick 1971; Kirst 1975; Wildavsky 1970; Vanderbilt 1977; Freeman 1978). The focus of these attacks was directly related to the perspective from which the author viewed the situation; for example, political scientists claimed that PPBS was politically naive and thus infeasible. The variety of reasons given for the failure of the system makes ferreting out the most salient problems difficult. Schick points out three problems that existed in attempting to assess the true value of PPBS: (1) the lack of fully implemented systems, (2) difficulty in monitoring action in all the localities in fifty states, and (3) the problem in discerning the difference between public claims of using the system and the true operative process which affected discussions (Schick 1971, 87-89). These problems indicate some of the inherent weaknesses of a PPBS system.

One of the weaknesses that is difficult to overcome rests in the costs associated with implementing such a system. These costs include not only a substantial financial commitment, but also an extraordinary amount of personnel time. Schick reported in his study of PPBS that many directors involved in implementing the system statewide felt it would take five or more years to fully put in place (Schick 1971, 87). Although additional staff was generally added to meet the increased work required, regular staff members were forced to prepare all the necessary documents in addition to their regular responsibilities. Consequently, as deadlines approached for submission of budgets, the analysis and planning thought to be an integral dimension of PPBS were pushed aside in favor of regular submission requirements. (Schick 1971, 115).

The time and financial effort required was far more than many expected. When planning and analysis were added to budgeting, the time

needed for these dimensions naturally increased. Because of the unique form and structure of PPBS, current data systems were generally unable to provide its needs (Vanderbilt 1977, 542). This led Wildavsky to conclude that PPBS was "tremendously inefficient" because the "inputs were huge and its policy output is tiny." (Wildavsky 1970, 469).

While funding necessary to implement a PPBS system varied with the institution, it has been suggested that a minimum budget dedicated to PPBS for the first year would be about $20,000. (Knezevich 1973, 263). For school districts with 25,000 students or more, a more realistic figure might have been $75,000 annually for consultants, personnel, organization, training, materials and space (Knezevich 1973, 263).

The additional staff required provided a new layer in the bureaucracy which was often found to be cumbersome. This layer was largely comprised of analysts, who became spokesmen for PPBS in the institution and campaigned for it (Schick 1971, 98). Since their efforts required changing the behavior of those attached to the old methods of budgeting, they were perceived as outsiders with questionable motives. This separation tended to protect the traditional methods since the "PPB'ers" were isolated from the budget officers (Schick 1971, 99).

The new layer was located close to the top of the administrative heirarchy. While budgeting is a political process, characterized by negotiation and compromise, PPBS contained an extreme centralizing bias. Wildavsky posits that a more useful tool for increasing the power of the chief administrators to control decisions would be hard to find (Wildavsky 1975, 328). While some may argue that this may not be a weakness but, in fact, a strength of the system, Kirst points out that such a centralizing feature was instrumental in the fall of PPBS in California. (Kirst 1975, 356). By centralizing decision making in the

hands of analysts, some important political values were trampled. In the mid-1970s, the public desired a diffusion of power not greater centralization.

Proponents of PPBS extoll the virtues of incorporating planning and goal setting into the budget process. Yet, there are those who see this as a fundamental weakness and one which restricts its acceptance. When objectives are specified, it is implied that they are clear, known and quantifiable. Yet, many public policy agencies and educational institutions are faced with unclear goals and technologies. Problems are inevitable in assessing effectiveness and efficiency measures (Vanderbilt 1977, 543). Also, it would be extremely difficult to obtain complete agreement of such goals, even if it were possible to delineate them (Freeman 1978, 39). Knezevich, a proponent of PPBS in education, admits:

> PPBS is less likely to work effectively when goal conflict abounds. It may help sharpen the issues surrounding the conflict, but it cannot define objectives with a high degree of precision in such situations.....If the organization or institution is difficult to program, the system cannot work (Knezevich 1973, 278-9).

In Kirst's insightful discussion of the PPBS experience in the school districts of California, he points out that the requirement to specify the objectives automatically brought controversy (Kirst 1975, 537). For example, Hillsborough (California) Schools spent two years formulating their PPBS goals. For the primary mathematics program alone, 58 goals were identified to be attained by the second grade (Kirst 1975, 358). Segments from across the state fought to have their goals accepted, changing PPBS from a technical issue to a value issue. Value conflict elicits the mobilization of political coalitions. In California, the increasing opposition to PPBS forced the State Board to

back down on statewide implementation despite the millions of dollars in sunken costs for training, consultants and pilot programs.

Incorporating planning into the budgeting process also creates conflict between role incumbents. Planners are spenders and natural enemies of those who want to control expenditures. (Wildavsky 1975, 258). By making budgeting a form of planning, planners gain control of the budget which upsets the traditional infrastructure of the organization. Budgeting is sufficiently demanding, politically sensitive and complex in its own right. The addition of planning and analysis adds additional pressures which will ultimately cause the system to fall under its own weight.

Another weakness pointed out earlier in this paper and on which there seems to be little disagreement, is that PPBS is an extremely complex system. One of the nation's foremost educational economists, Jesse Burkhead, reacted to the proposed PPBS model in California by saying:

> The striking characteristic about all of these PPBS systems is their unbelievable complexity, the attention to detail and their costliness... (Burkhead 1973, 201).

5. Failure

According to Wildavsky, the reason for failure of PPBS is its complexity. In short, "no one knows how to do program budgeting" (Wildavsky 1975, 359). The major focus of PPBS is to develop better policies, and no innovation will be able to do this on its own. The literature seems to adequately describe what PPBS should be like, but lacks descriptions of how to do it. Adding to its complexity is the requirement for PPBS specialists, responsible for implementing the system. For the majority of individuals in an institution, PPBS

demands abilities which are beyond their capabilities.

The weaknesses mentioned above which are inherent to PPBS make implementation difficult at best. Yet additional liabilities in the system existed. First was the problem of transfer. The attention PPBS received after being implemented in the DoD caused many to jump on the bandwagon. This occured first in other federal agencies, then spread to the state and local levels. However, there are some fundamental differences that exist between agencies and levels of government which restrict transfer of the system. In some cases, changes were made in the form of PPBS. Yet, the modified versions were often incompatible with the existing structure and nature of the organization or institution.

The level of success achieved by PPBS in the DoD was aided by the nature of the Department and their experience in analysis and planning. This was not the case in most other agencies so that the translation of the system was complicated (Lee & Johnson 1977, 95). In addition to the experience and infrastructure considerations, the availabilty of talent in state and local governmental agencies was far more limited. (Lee & Johnson 1977, 100). Where these assets were weak or missing, it took more than good intention to make an impact on the budgeting process (Schick 1977, 559).

In education, this transfer problem was especially acute. PPBS was originally developed for federal defense problems. The difference between these and public educational concerns were vast. In addition, the program structure of PPBS may not have coincided with the existing organizational structure of schools. That is, programs were not equivalent to departments. Thus, responsibility for programs in PPBS was not clear in schools. It would seem safe to assume that many of the problems that existed with PPBS in educational institutions could be attributed to a basic inappropriateness for education in the basic

design.

Second, the new men of power (PPBS'ers) were insensitive to traditions, institutional loyalties and personal relationships (Schick 1977, 562). As a result, traditions continued to control budgeting, while PPBS stood on the outside - "a fashionable but peripheral feature of administration" (Schick 1971, 103).

Implementation strategies are paramount to the success of any innovation. PPBS, like any other management tool, cannot work without a commitment, without resources and without a conducive environment (Knezevich 1973, 279). Commitment must be generated from the top level of administration. Unfortunately for PPBS, the inability to understand the system caused the interest of many leaders to wax and wane, spelling an end to the system. PPBS failed in some cases, because the leadership underestimated the changes required or found the resource requirements of the system untenable and thus invested only mild support and leadership to the endeavor (Lee & Johnson 1977, 104; Schick 1977, 562).

The costs described above gave one indication of the resources required. Included in this, and critical to successful implementation, was the training provided for understanding and performing the activities involved in PPBS. The system would not work where staff members were poorly prepared to meet its challenges (Knezevich 1973, 278). However, the complexity of the system placed demands on training which strained even the most effective programs (Schick 1971, 101). In many cases training was expected to succeed where PPBS itself had failed (Schick 1971, 101). Also, in the desire to implement the system in a short period of time, many attempts at PPBS faced unrealistic time constraints causing the training dimension to be minimized.

In short, while weaknesses in concept and operationalization may

have been sufficient to prevent the success of PPBS, clearly there were significant other factors leading to failure. Shortcomings in implementation such as lack of support from top administrators, inadequate resources, unprepared staff and unrealistic time lines were probably sufficient to seal its doom irrespective of its prima facie merits.

C. Zero-Base Budgeting

1. Overview

The most popular budgeting reform of the 1970s was Zero-Base Budgeting. As the nation's economy began its downward cycle, the confluence of declining resources and increasing demands seriously strained the effectiveness of all government agencies. In order to maintain a semblance of rational decision making in times of uncertainty, government officials were eager to find an innovation that symbolized rationality and increased effectiveness and efficiency.

In 1970, a staff control manager at Texas Instruments, Peter Pyhrr, published an article in the Harvard Business Review on the new "systematic and formalized" method of budgeting used in that company (Phyrr,1970). Governor Jimmy Carter saw the article and asked Phyrr to implement ZBB in the state of Georgia in 1971. From the Georgia experience, ZBB spread to Texas and New Jersey as well as to several municipalities. Governor Carter became President Carter and the system became a mandate for all federal agencies.

Yet, formulating budgets from the "ground up" is not a new concept. The term zero base was coined in 1924 by E. Hilton Young, who argued that responsible budget managers should justify their expenditures from zero (Conners 1978, 250). While not applying the ZBB acronym, Verne Lewis described such a perspective for budgeting in 1952 (Lewis 1952). Probably the first attempt at implementing the zero base concept

occurred in the early 1960s in the Department of Agriculture. In April of 1962, that Department's Office of Budget and Finance released instructions for preparing 1964 agency estimates which began, "A new concept has been adopted for the 1964 agency estimates; namely, that of zero-base budgeting" (Wildavsky 1975, 271). The Department of Agriculture's attempt was widely regarded as a failure (Wildavsky 1979b, 207). The current version of ZBB can not be judged so definitively. For example, at their annual meeting in October, 1977, the Association of School Business Officials passed the following resolution:

> "The (Association) believes Zero-Base Budgeting is an effective and rather easily understood management tool for planning and controlling the expenditure of funds, ...The Association believes that it is a tool that should be considered by all school systems in planning annual budgets." (Bliss 1978, 3).

In addition, by 1979, 13 state governments and numerous local units had experimented with the system (Worthley and Ludwin 1979, 2). Despite the criticisms leveled against it and the relatively few successful experiences with it, ZBB, unlike PPBS, has resisted relegation to the status of a "museum piece."

2. Description

The description of ZBB presented here is generic in nature, as experience has shown that no single definition or description is appropriate (Worthley and Ludwin 1979, 5). Even ZBB pioneer, Peter Phyrr, warned that the system was not a series of fixed procedures but a process which must be adapted to the specific needs of each organization (Phyrr 1977b, 2).

The first step in ZBB is the identification of "decision units."

Decision units are the lowest-level entities for which budgets are prepared (Taylor 1977, 6). These units are usually based on existing organizational structure or traditional budget units but must have an identifiable manager with authority to establish priorities within the unit.

Once the decision units have been identified, the next step is the formulation of "decision packages" by the decision unit managers. Each package is a written document containing the information needed to compare the decision units. This usually includes a statement of objectives, a description of the activities, alternative ways for accomplishing the objectives, the consequences of not performing the activity, the costs and benefits of the activity and measures of workload and performance. Various levels of funding for the same activity are separated into incremental decision packages, one for each level. The result of this step is a tremendous flow of information and paperwork.

The third step in the process requires the ranking of the decision packages. Each manager ranks in order of priority all decision packages for which he is responsible. These rankings are then submitted to a higher authority who will consolidate the rankings from several subordinates into a single ranked list. This process is repeated up the heirarchy in the organization. Once the final ranking is made by the person(s) at the top of the organization, those packages that can be funded with the available money are included in the organization's formal budget.

The term "zero-base" comes from the practice of requiring the above mentioned process each year for all programs, including those previously funded. Thus in concept, ZBB is a resource allocation tool and an information gathering system. It is a bottom up process where goals and objectives emerge from the operational levels of the

organization to inform top management how activities relate to each other (Hentschke 1978, 242).

ZBB was developed as a business model and as such assumes that low priority packages are expendable. If a program or activity fell below the final cut off line it simply was not funded. This concept has limited application to governmental agencies or school systems where various programs and services are not under control of management. The output or products of the schools, as well as the complex interrelationships of education programs, required specific modifications to be made (Bliss 1978,2). In assessing the performance of ZBB in state governments, Schick reported that "not a single state budget system would warrant designation as using zero-base budgeting" (Schick 1979, 27). One of the first changes was the abandonment of the annual zero-base reviews (Draper 1981, 78). The number of decision packages and the time and effort required to develop them made this feature of ZBB impractical in most organizations. From experiences in educational institutions, Hentschke concludes that, in addition to abandoning annual zero-base review of decision packages, most institutions have eliminated or modified the ranking process and have eliminated the determination of minimum levels of effort for each package (Hentschke 1978, 243).

Pyhrr argues that the adaptability of the system is one of its strengths (Pyhrr 1976), while Hammond and Knott contend that people only have positive attitudes toward ZBB because they are not really using it. (Hammond and Knott 1980, 72). Nevertheless, ZBB has been a popular, widely used management tool. Unlike PPBS, which history has had ample time to analyze and judge, ZBB is too recent an innovation on which to pass judgment. Yet the literature does contain ample accounts and assessments of ZBB by practitioners and academics. This body of literature is the basis for the following discussions of ZBB's strengths and weaknesses.

3. Strengths

ZBB did not become a popular management process simply because a southern governor who became President of the United States liked it. In fact, such an association might have been a liability in light of President Carter's fall from popularity. Association with and the support of the President will bring attention to an innovation, but when implemented outside of the federal bureaucracy, a new system must be able to stand on its merits.

The most frequently cited benefit of ZBB is the generation of better and more in-depth information about the activities of the organization (Hentschke 1978; Moore 1980; Draper 1981). As a "bottom-up" process, goals and objectives are developed at the operational level and in moving up the heirarchy, educate upper-level management of the interrelationship of activities within the organization (Hentschke 1978, 242). This incorporates the virtues of participatory management into the budgeting process. As Draper says, ZBB reaches the "untapped reservoir" in budgeting. In so doing, ZBB creates the congruence between those responsible for developing the budget and those responsible for delivery (Serafield 1977, 38).

Unlike PPBS, ZBB does not attempt to alter the program structure currently used in an institution. Decision units can be anything the institution chooses. There is no need to tamper with the infra-structure while implementing change in the budgeting process. Conceptually ZBB is not divorced from the budgeting process and separate staff is not required as in many other budget innovations (Schick 1978). Consequently, ZBB has presented fewer problems in implementation than many of its predecessors (Draper 1981, 79).

Another benefit of ZBB, as touted by proponents, is the preparation of alternative funding levels as a formal requirement in

the budget process (Draper 1981, 78). This structure avoids the necessity of renegotiating the entire budget should the funding picture change, as well as providing an alternative to across-the-board reductions. Requiring alternative funding levels forces everyone involved in the process to think in consequential terms. In other words, it mandates that answers to a series of "what if?" questions be found (Lee & Johnson, 119).

William Sarafield posits that there is probably nothing better than a discussion of total dismantlement of a program to discover its true value. As Phyrr developed it, and as the name implies, the "ground-up" approach is inherent in ZBB. Unfortunately, this can not be considered one of the system's assets. In reality, the time, cost and complexity of a zero-base review of every program each year led to the first major alteration made to ZBB when implemented (Hayward 1977, 43).

Other facets of ZBB have received a mixed review in the literature. Some claim the system has rationally cut budgets and has reallocated resources from lower to higher priority areas (Taylor 1977; Connors 1978; Phyrr 1977b; Moore 1980). Others have argued that it has done just the opposite (Draper 1981; Minnier & Hermanson 1977; Hammond & Knott 1980; Schick 1978; Wildavsky 1979b).

In summary, there seems to be agreement on several strengths of ZBB. It provides the structure for generating more and better information within the institution, it creates a firm link between the budgeting and operational levels, forces the institution to focus on consequences, and enhances "participatory management" within the organization. Whether these strengths, the political fortunes of a southern governor, or as Schick claims, the appropriateness for the times led to the spread and utilization of ZBB is unclear. Probably all of these factors have had some impact. ZBB was right for the existing

economic times. When fiscal frugality is paramount, if nothing else, ZBB focuses the thinking of individuals to align with this thrust (Draper 1981, 76-77).

4. Weaknesses

The ZBB process incorporates several features that are quite difficult to operationalize. By incorporating performance measures in the formation of decision packages, the problems inherent in evaluation and appropriate measurement become tied to the budgeting process (Hammond & Knott 1980, 18-21). Questions of preference for effectiveness, efficiency, extensiveness or equity are continually raised, with answers or preferences being relative to an individual manager. As such the ranking process, which is so crucial to the system, becomes difficult if not impossible.

Performance measures are quantitative, and when these are not available or are difficult to acquire, the system requires managers to create indirect or proxy indicators. Quite naturally, the more indirect these indicators, the greater the need for caution in interpreting the results they provide (Hammond & Knott 1980, 20). Another potential problem that has been discovered when indirect measures are created is the use of the most favorable indicators in the decision packages while ignoring all others. When decisions and evaluations of a decision package are made on these indirect or proxy indicators, managers tend to orient the behavior of their organization toward looking good on the proxy measures instead of what these indicators are intended to measure (Hammond & Knott 1980, 20).

The importance of performance measures is heightened when a ZBB institution turns to ranking decision packages. Performance measures provide the basis for the rankings. The difficulties, weaknesses and uncertainties in developing performance measures become incorporated in the ranking process and combine with the mere logistics of ranking

numerous decision packages to hobble the process. For example, in Georgia the State Health Agency alone generated over 2,100 decision packages to be ranked within the agency, as well as with all of the other packages from other state agencies (Minnier & Hermanson 1977, 76). Top officials were forced to rank the packages from the Health Agency, Highway Patrol, Budget Bureau, etc.; all with diverse goals, activities and performance measures.

The final ranking also provides a "cut-off" point for programs or activities which receive funding. However, in the Georgia experience, when the available funding turned out to be less than originally anticipated, instead of raising the cut-off point, almost all departments had to resubmit new rankings based on the lower funding level (Minnier & Hermanson 1977, 88). This indicates that budgeting is the process of allocations, not of setting priorities (Hammond 1980, 53). From these experiences, Georgia officials made major modifications in the use of performance measures and in the ranking process. Having previously abandoned annual zero base reviews of all programs, the question becomes were they really using ZBB?

Another weakness of ZBB is that it requires substantial time, funds and paperwork. ZBB pioneer, Phyrr, admits, "to be sure, ZBB usually involves more managers and takes more management time than traditional budget procedures." The extent of the time and enormous flow of paperwork led Conners to posit that education expenditures might not be reduced by ZBB because of the additional administrative time (Conner, et al 1978, 259). Steps can be taken to reduce this burden but problems similar to those discussed above are likely to occur.

One of the most distinctive elements of ZBB is the identification of minimal levels of effort for each decision package, yet this has become one of its weaknesses in operation. The minimum level is that funding level below which it is not feasible to continue the program

(Hammond & Knott 1980, 35). Presumably, this is the essence of ZBB. Yet, experience has shown that this minimum level tends to be set arbitrarily at some percentage of the current level of funding (Draper 1981, 77; Wildavsky 1979b, 209). Moore, in an analysis of ZBB in U.S. cities, found most minimum funding levels set between 75-90% of present funding; Schick found only 1 of 25 states employing the ZBB methodology was actually using the classic definition of minimum level. The reason seemed to be the extreme time limitations and difficulty in conceptualizing what a minimum level is (Hammond & Knott 1980, 35-40).

Other weaknesses of ZBB which must be noted include the tendency for a parochial perspective to become evident within the budget when it is built from the ground up (Draper 1981, 79). Also, ZBB was a product of the private sector and transposing the framework to public agencies and institutions resulted in modifications which have changed the true nature of ZBB as practiced (Conner, et al 1978, 256). The business model is based on the assumption that low priority packages are expendable; in the public sector and more specifically, in education, this is most often not possible. Programs must go on and services must be provided, often as a result of mandate, but also since public programs tend to exist because of political constituencies. Despite being able to reduce spending after implementing ZBB, Morton, Illinois school officials modified their process because "it did not address their needs--some things have to be provided" (Hynes 1982, 19). In short ZBB makes the unrealistic assumption that decision makers have the capacity to eliminate programs (Lee & Johnson 1977, 119).

5. Why ZBB Has Not Gained Widespread Acceptance

After its death at the federal level in 1971, hardly a trace of PPBS remains. The same is not true for ZBB. Despite President Carter's defeat in 1980 and the demise of ZBB at the federal level, implementation of the system continued to appear (e.g. in the South Dakota Division of Elementary and Secondary Education in fiscal year

1980.) Yet it would be difficult to say that ZBB has become the norm in budgeting in the United States. This last section looks at several possible reasons for this.

With over 10 years of experience with ZBB, when all is said and done, very little has changed (Hammond & Knott 1980, 2). The first ZBB federal budget (in 1979) produced fewer reductions than any previous 1970s budget; most programs were funded at or above the previous level (Schick 1978). Modifications were required so ZBB was not really being used anyway. The budget process seems to be impermeable and ZBB did not change the way budgeting occurred (Draper 1981, 77; Wildavsky 1979b, 208).

Furthermore, ZBB suffers from its name. Since ZBB has come to symbolize fiscal scarcity and budget reductions, the very rumor of implementation can elicit a defensive reaction within the institution. Reacting to the ZBB "message", lower level managers tend to develop coping devices to protect their interests (Moore 1980, 256). In many cases, managers are motivated to raise the minimal level and to overstate the effects of discontinuing operation of the programs. In short, the very name zero-base budgeting frightens budgeters and program managers (Draper 1981, 77).

Like PPBS, ZBB experienced implementation problems caused by exaggerated claims made by high-level administrators (Sarasfield 1977, 39). "Overselling" is associated with many innovations in an attempt to maximize the probability of change within an institution. When ZBB failed to deliver on the promises of its proponents, lower level decision makers became cynical and skeptical. Probably the major reason why ZBB was not the panacea promised was that it was sold as a cost-cutting mechanism (Draper 1981, 80). ZBB is a short term budget tool and many of the portions of any budget are uncontrollable. In addition, ZBB is only a process and processes do not cut budgets. As Schick

notes, "growth in budgets is more sensitive to financial conditions and political attitudes than to budgetary procedures." Further, in education, implementation of ZBB has been restricted by its heavy emphasis on analysis. The paucity of analytical skills and expertise in the field of education precludes its large scale acceptance (Bliss 1978.33). Thus, despite any benefits that might have materialized, the fate of ZBB (and most budget reforms) tended to be predestined to failure.

Even though the promises of ZBB advocates are not being fulfilled, many "users" remain positive about ZBB because they are not doing it (Hammond & Knott 1980, 72). The trend has been to move away from ZBB by modifying the minimum levels and ranking process and eliminating the annual zero base review. For example, officials at Stanford University do not consider ZBB a failure even though it was used in a "textbook" form for only four years. According to the Director of Management and Financial Planning, Frank Ratts, having completed the ZBB process, the University did not deem it necessary to continue the extensive annual reviews (Ratts 1983). While it is generally easy to find those who will talk of ZBB benefits, it is difficult to find ZBB in practice.

In summary, ZBB rests on a model of rationality that has appeal to managers and officials at nearly every level. Yet it seems to impose logistical conditions on the budgeting process that are seldom met. (Hammond & Knott 1980, 93).

D. The Lessons to be Learned

Innovation in policy making or decision making procedures is difficult at best. This is especially true in budgeting where organizational inertia, the politicized nature of resource allocation and the complexity of the vast range of alternative investment strategies favor repeating next year what was done this year. One need

only look at the history of budget reform to find that change is nearly imperceptible. Allen Schick best expresses this when he points out,

> Small changes are achieved through large efforts; each wave of reform leaves its modest legacy and prepares the way for future improvements (Schick 1971, 192).

He further notes that this difficult future facing a possible reform is irrespective of any substantive merits inherent in the change. Implied in Schick's remarks is the notion that, while appearing inexorable, budget innovation is possible. Clearly, however, in designing a model for local planning and budgeting, it is extremely important to completely understand existing budgeting processes and to learn from previous budget reform experiences. The examination of PPBS and ZBB, the two most recent reform attempts, serves well in providing those lessons.

Much of the difficulty that a proposed budgeting model will face can be attributed to organizational inertia and the tradition embodied in its existing budgeting process. The "budgetocracy" becomes set in its ways, routines become habits and individuals become vested in current operating procedures. In past reform efforts, proponents have attempted to overcome this resistance by making exaggerated promises and portraying the innovation as a panacea for a wide range of ills. Both PPBS and ZBB fell short in meeting the unrealistic expectations they generated and consequently fell victim to increased skepticism within the organization as to their potential. In developing and implementing a proposed budget reform, a fine line between selling and overselling the system must be drawn within an environment resistant to change.

ZBB has its origin in private industry, PPBS began in a large federal agency. Having achieved some success, their popularity grew

and their use spread to all levels of the public sector. However, not only are the federal, state and local levels of government unique but the institutions and agencies which comprise each level are idiosyncratic. As a consequence, each reform had to be substantially modified to achieve "a fit" with the organization. In some cases, the modifications were slight; in others, the conceptual framework was compromised to force a fit. The result in either case, was to employ the reform in name only, jeopardizing the nature of the innovation and its potential benefits.

This was especially true for ZBB and PPBS as applied to educational institutions. The strongest similarity between schools and other governmental agencies is their public sector base. Differences in infrastructure, goals and delivery systems remove any assurance that reforms appropriate at one level will apply at any other.

Another lesson implied in the budget reform literature is the importance of simplicity and comprehensibility of the innovation. Aaron Wildavsky argued that while PPBS had many shortcomings, the fundamental reason for its demise was that no one knew how to do program budgeting. While the same accusation was not explicitly leveled against ZBB, the complexity of the procedures, the esoteric nature of the terminology, the potential for overwhelming paperwork and the inapplicable nature of several of the key concepts oppose acceptability.

The budget has become a vital component of the political, economic and bureaucratic processes of all public sector institutions. It has acquired a variety of functions and users. Schick argues that the budget can be a control instrument, a management tool and/or a planning device. Depending on the political or economic milieu, one of these functions tends to predominate (Schick 1971,4). He further states,

> Every budget reform alters the uses to which the budget is put, and it is these uses that are most germane to the success or failure of the reform, the way it is implemented, and the attitudes of those involved in the day-to-day conduct of budgeting. (Schick 1971, 3).

PPBS accentuated the planning function; ZBB became a management tool under the guise of a control instrument. Acceptance of any innovation is based on the extent to which these functions are in concert with the existing political and economic environment. Consequently, any budgeting model must be sensitive to the crucial issue of balance among the functions of the budget and the political and economic milieu in which the budget must exist and adapt.

While PPBS and ZBB were praised for bringing specification of alternatives and consequential thinking to budgeting, goal specification and objective definitions of the measures of performance to the system caused these efforts to stutter. Controversy arose and these reforms were rejected. Incremental thinking in budgeting maintains enduring power and may be sacrosanct in educational organizations which are characterized by conflicting goals and unclear technologies. Budget reform efforts must not malign these important characteristics of budgeting. The incremental approach reduces conflict and is consequently appealing to budget makers. A viable educational planning and budgeting model at the local level should not attempt to divorce itself from incrementalism.

Regardless of the substantive merits of any reform, attempts to change existing budgeting processes in local school districts face a difficult future. Budgeting is not a risk-taking process (Schick 1971, 193). This caveat becomes especially salient when fiscal uncertainty and economic crisis are the operational norm. Yet, by considering the strengths and weaknesses of previous reform efforts and by gaining an

understanding for existing budget processes and local environments, the design of the proposed model can avoid many of these obstacles to budgeting innovation.

III. THE BASIS FOR DEVELOPING A LOCAL PLANNING AND BUDGETING MODEL

A. An Overview of the Resource Cost Model

The purpose of this section is to provide an overview of a conceptual framework designed to integrate considerations of adequacy/equity/efficiency into a resource-cost-base rationale for systems of school finance, planning and budgeting. There has been considerable work done on the development of this kind of resource-cost-based approach for state school finance and planning and is best represented by the Resource Cost Model (RCM). Kakalik (1972, 1977) and Hartman (1979, 1981) independently employed a similar framework to estimate the cost of special education services in order to assess the cost of implementing P.L. 94-142. Chambers and Hartman (1981) have analyzed the RCM as a possible tool for funding and demonstrated its use for special education funding. Chambers and Parrish (1982) considerably expanded the conceptual foundation underlying this model and implemented it in the state of Illinois as a proposed funding base for the state school finance formula.

With the success of the RCM as a viable approach for costing out programs at the state and federal level, it seemed reasonable to examine the feasibility of adapting this kind of approach to local planning and budgeting. It is with this in mind that we present an overview of the technical and decision making components of the RCM in the form as developed by Chambers and Parrish and to outline some of the issues that need to be addressed in adapting the approach to the needs of local decision making.

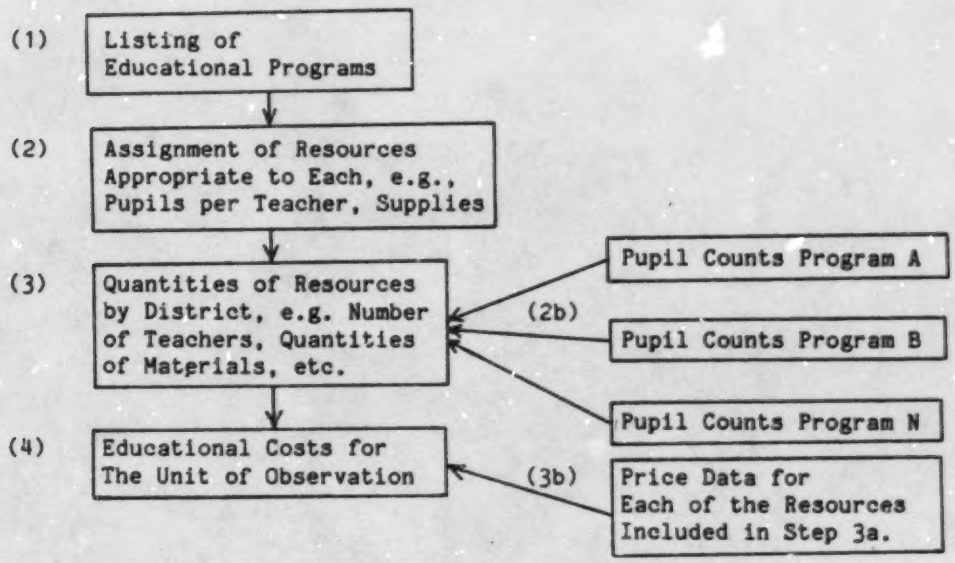
Much detail is excluded from this brief overview as its purpose is simply to sketch a general outline of the Resource Cost Model approach to educational resource allocation. The presentation is kept general in nature to provide a conceptual approach applicable to both the state and local levels of educational governance. While this model has been

considerably refined at the state level, this paper is written as a point of departure for the more complete development of this model at the local level. The last section of this paper outlines some of the issues and questions surrounding the consideration of how this approach might be tied to the needs and characteristics of local school districts, and especially how the development of a local planning model should be informed by past attempts to bring rationality to school district decision making.

Essentially, the RCM is an "ingredients" approach to costing out educational programs. This requires the listing of a uniform set of educational programs, the determination of specific resources that are appropriate for each of these programs, and the costing out of these resources to determine program costs. On the basis of these standardized cost data and the number of pupils enrolled in each educational program, overall costs of education can be determined and broken down by the categories desired.

Figure 2 begins with a list of the educational funding categories to be recognized. In Step 2a, an appropriate number of educational resources, i.e. teachers, administrators, supplies and materials, etc., is identified for each of these programs. On the basis of these assignments and enrollment data by program (Step 2b), standardized quantities of resources for the unit of observation can then be calculated (Step 3a). The multiplication of these quantities by the prices for each resource (Step 3b) results in an educational cost figure for each unit of observation (Step 4).

FIGURE 2
RCM - TECHNICAL STEPS


(1)
Listing of Educational Programs
(2)
Assignment of Resources Appropriate to Each, e.g., Pupils per Teacher, Supplies
(3)
Quantities of Resources by District, e.g. Number of Teachers, Quantities of Materials, etc.
(2b)
Pupil Counts Program A
Pupil Counts Program B
Pupil Counts Program N
(4)
Educational Costs for The Unit of Observation
(3b)
Price Data for Each of the Resources Included in Step 3a.

This overview of the technical steps of the model, however, disguises much potential complexity inherent to the model. For example, procedures must be developed to produce the large number of subjective and politically sensitive judgments this model requires. The model begins with a "list of educational funding categories to be recognized" (Step 1) and then calls for the assignment of an "appropriate number of educational resources" to each (Step 2a). The programs that should comprise this list and the levels of resources appropriate to each are the very essence of the equity, adequacy and efficiency issues which confront educational planners and budgeters. Thus, the RCM is much more than a simple technical tool for the derivation of educational costs. The RCM must include a process for establishing standards regarding what educational programs should be receiving support and what that level of support should be.

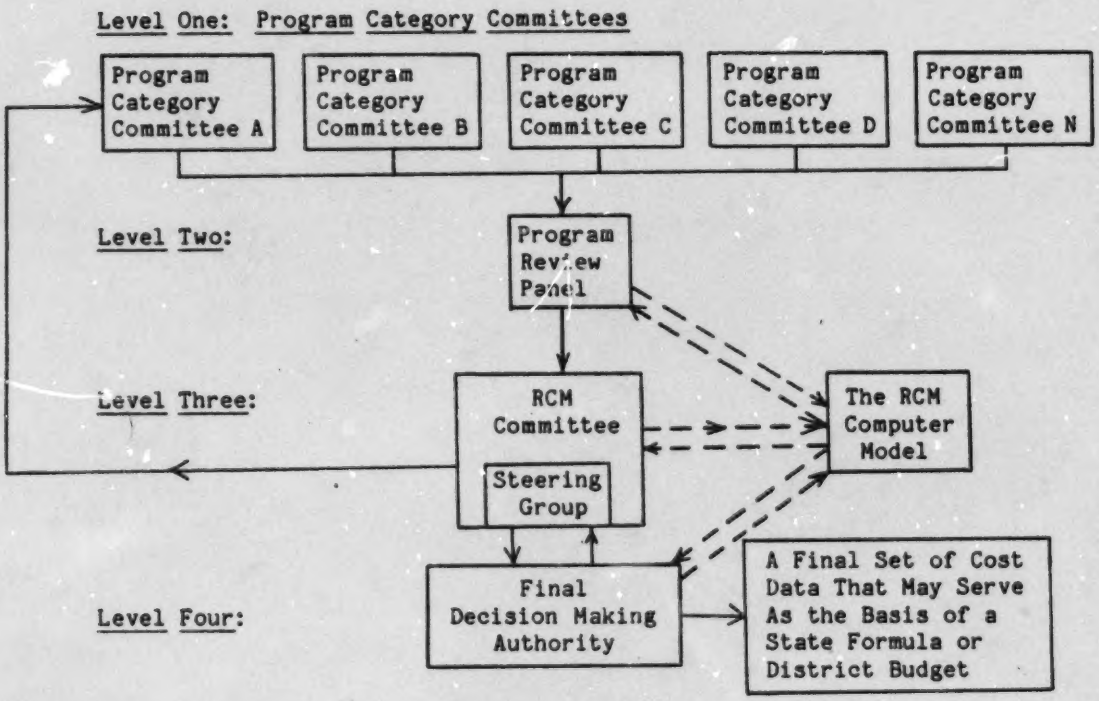
Thus, this process links equity, adequacy and efficiency considerations. Vertical equity considerations require distinctions in resource levels according to educational need, while adequacy is concerned with determining the combination of educational resources which will best serve the overall goals and objectives in the provision of public educational services. Both of these standards must be explicitly resolved in the requirements set out by Steps 1 and 2a above. In this context, efficiency takes on the same connotation as adequacy. How can the available educational resources be allocated in a manner that will maximize overall educational goals and objectives?

Thus, the RCM is really a <u>process</u> for reaching some explicit resolution of these standards. Furthermore, since educational goals and objectives are not static, this process must be dynamic. Just as the many processes that implicitly define adequacy and equity standards constantly evolve, the concept of evolving educational costs is incorporated into the design of the model.

Prior to a brief description of the RCM process, it is important to clarify that the term Resource Cost Model also has a third dimension. Beyond the technical steps shown in Figure 2 and the procedural steps that will be illustrated below, the RCM is a computer simulation model. Thus, all of the mechanical steps implied in Figure 2, e.g. resource matrices (Step 2a) multiplied by enrollments (Step 2b) equals resource quantities (Step 3a), are performed by the RCM computer simulation model. The RCM computer program is the primary tool of this methodology. It adds considerably to the power of the RCM process. Beyond the computational functions that would overwhelm this concept if it were not computerized, the relative speed and facility that this program adds to these calculations allow the simulation of various resource allocation strategies which makes final resolution possible. That is, it is the near-immediate feedback of the cost implications of alternative specifications for Steps 1 and 2a above that allows their fine-tuning and adjustment toward a balance that is "appropriate" both in terms of what programs require and in terms of what is affordable.

The iterative dimension that this model brings to the RCM process is best conveyed by progressing to the process itself. The process for making the specifications implied in Steps 1 and 2a of Figure 2 is depicted in Figure 3.

FIGURE 3
THE RCM PROCESS


Level One: Program Category Committees
Program Category Committee A
Program Category Committee B
Program Category Committee C
Program Category Committee D
Program Category Committee N
Level Two:
Program Review Panel
Level Three:
RCM Committee
Steering Group
The RCM Computer Model
Level Four:
Final Decision Making Authority
A Final Set of Cost Data That May Serve As the Basis of a State Formula or District Budget

Program Category Committees are formed for the distinctly recognized educational categories, e.g. regular elementary, special education, etc. Membership on these committees must incorporate requirements of program expertise, ranging from curriculum to equipment costs, with the political requirement to include a fairly broad constituency. These committees derive the initial list of programs and resource configurations. A single representative from each of the educational program categories is appointed to serve on the RCM Committee. Prior to meeting with this larger committee, however, these representatives convene as the Program Review Panel for an initial evaluation and standardization of the full set of programs.

The RCM Committee generally has a representation extending beyond the interests of the immediate schooling entity. A broader perspective may be brought to this committee through representatives from the legislative and executive branches of government at the state level, or of board members, parents, students or other community members at the local level. These constituencies represent the more general concerns of government which must balance the resource needs of education against all other public services or the broader perspectives of the schooling community beyond those exclusively involved in the provision of educational services.

In the last step of this process, the proposed specifications and cost data derived by the RCM committee moves through to the final decision making authority. At the state level, this will be the State Board and the Legislature. At the local level, this final authority ultimately rests with the School Board.

At each level of involvement, evaluation, negotiation and bargaining characterize the process. Each of the procedural levels shown in Figure 2 are conducted within the context of implied constraints. The overall constraint of the level of state or district

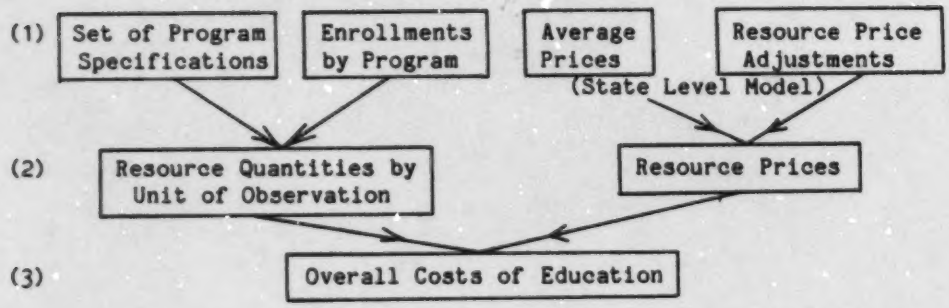
resources available for education can not be avoided at Levels 1 or 2, because it must ultimately be confronted at levels 3 and 4. Other levels of constraints are intra-program and inter-program category constraints, which are made self-evident in these competitive processes through the realization, given finite resources, that educational resources assigned to Program A or Program Category A reduce the remaining pool of resources available to Program B or Program Category B.

In addition, at levels two through four the negotiation processes may be informed by cost data and various cost simulations from the RCM computer program. These linkages are represented by the broken lines in Figure 3.

Figure 4 is a schematic of the RCM computer program. The four sets of inputs are shown in line one of this diagram. Lines two and three indicate the outputs of the model. The reasonableness of the cost data produced by the model is entirely dependent on the data fed in. What is specified in line one produces the simulation results of lines two and three. Through successive passes and analyses of these outputs, an appropriate list of programs and appropriate resources can be derived for the first two sets of boxes in line one.

In summary, the RCM approach to the costing out of educational programs has farther reaching implications than mere cost analyses. The processes and procedures of this methodology incorporate the standards of adequacy, equity and efficiency in very specific terms. The inherent dynamic and political orientation of these subjective allocative decisions is incorporated into the model design. The result is an estimate of what programs should cost as subjectively determined by a cross-section of educators and policy makers.

FIGURE 4
RCM COMPUTER PROGRAM SCHEMATIC



B. Reconciling the Local Planning and Budgeting Model Design With the Failures of the Past

The final section of this paper will provide a springboard from which to embark on the adaptation of the Resource Cost Model methodology into the design and implementation of a Local Planning and Budgeting Model. How should this model be developed in light of the experiences with previous rational models in education as described in this paper? Specifically, how may the lessons of the past be linked with this proposal for the future? This section will take three approaches to the consideration of this question. First, how does the LPBM differ from prior attempts at budget reform in education? Second, to what extent does the LPBM methodology build on the observed strengths of these prior efforts? Third, in light of past experiences, in what areas does the LPBM appear to be potentially vulnerable in its basic design and what are the implications of these potential weaknesses for implementation strategy? Thus, the essence of this paper is contained in this section in that prior to the final design of the LPBM, we attempt to avoid the ultimate embarrassment that Wildavsky notes can be expected when history is ignored.

1. How Does the LPBM Differ from Previous Attempts to Bring Rationality to Educational Budgeting and Planning?

The greatest shortcoming of the models cited in this paper for the education sector is probably the inappropriateness of their basic design for education. As previously mentioned, ZBB originated in the private sector and PPBS began in a large federal agency. In both instances, because these models seemed appropriate and successful in the environments of their origin, it was assumed that they could be applied across a wide range of organizational settings. Each reform spread to its level of inappropriateness.

As both models promised increased rationality and greater

efficiency, public sector agencies which are commonly perceived to be lacking in these characteristics, were extremely vulnerable to these waves of reform. Because these agencies are generally believed to be inefficient by their very nature, questions were seldom asked as to how these new concepts could be useful in this sector. To allow them to interact with these models was believed to undermine and corrupt their reform potential. Thus, these types of reform were often imposed from above. Because they are not well suited to the educational production process, with its unclear technology and conflicting goals, these processes were generally force-fit into educational settings or only given superficial support, i.e. only enough to meet the letter of mandates, or not enough to make them viable. As noted above, while the appearance of ZBB or PPBS was often maintained, below the surface the traditional approaches were most often continuing uninterrupted.

It is contended that this basic flaw caused many of the symptoms of failure which characterize the involvement of PPBS and ZBB in the educational sector. Thus, although there is a considerable history of attempts to rationalize educational budgeting and planning, the LPBM represents the first attempt to design such a rational process exclusively for the public education sector.

Why is this educational orientation so important? Both ZBB and PPBS embody the basic tenets of rational decision making theory. The components of this process include the careful elucidation of specific objectives; specification of a series of alternatives for meeting these objectives; evaluation of the various alternatives on the basis of their costs and effects; and, finally, arrival at a value-maximizing choice. In the case of a school district, the above steps are followed using a ZBB or a PPBS type methodology and the alternative is selected whose consequences rank highest in terms of its objectives. The nature of this approach strikes an immediate basic tension in the educational sector, however. Jesse Burkhead describes the existing incongruency:

(Jesse Burkhead, "Economics Against Education," Teachers College Record 75, no.2(December 1973): 198.)

> Apart from the data problems, there are also some conceptual difficulties in the microeconomic analysis of education. In the estimation of production functions in the private sector, it is assumed that a factory manager, for example, has reasonably good knowledge of the marginal productivity of the factors that he utilizes, and thus he is able to optimize factor combinations to maximize profit. But in elementary and secondary education there is no reason to assume that a school principal, or district superintendent, or board of education has knowledge of or interest in the marginal productivity of resource inputs. Even if these were known, it could not be assumed that it would be possible to secure least-cost combinations, given the institutional rigidities of mandates and conventional practice. Neither is there a reasonable substitute for the objective function of profit maximization. Thus, the optimization rationale that underlies production functions in the private sector is inapplicable for elementary and secondary education.

PPBS begins with the school officials "clearly defining its mission, goals and objectives," while ZBB calls for "decision packages" which clearly state the objectives of each of the "decision units" of the organization. Kirst notes that in the case of PPBS in California, the requirement to specify objectives automatically brought controversey. (Kirst, p. 537) Thus, while in theory the output focus of such models as ZBB and PPBS is laudatory and seems particularly lacking and needed in such "fuzzy" public service sectors as education, the conflicting goals and unclear technology that characterize education necessarily imply that the specific statement of goals and objectives

will be highly subjective in nature, value-laden and thus, controversial. Because such diverse goals as preparation for the labor force, training for citizenship, equal opportunity and the advancement of the individual to the fartheat extent of his or her capabilities are associated with education and because the operationalization of these goals often result in conflicting practices, it is impossible to definitively state the goals of education in operational terms, or to find any universal agreement as to how they should be ranked. And, even if such agreement were to be produced for education, given the imprecise nature of the educational production function, it is impossible to state with any certainty what inputs would produce these desired outcomes. Thus, any budgeting or planning methodology calling for a tight, rational fit between inputs and outputs in education simply does not fit the imprecision that characterizes this sector.

Many of the negative characteristics associated with the interface of these two rational models with education can be explained by this basic design flaw. Because disagreements about what the specific goals of education should be or the relative priority that these goals should receive are rooted in the very fiber of our multi-cultural society, attempts to resolve these issues will inevitably require interminable investments in personnel time and resources. The technological jargon and the infusion of technicians accompanying such models as PPBS can only obfuscate this basic discordance. It is little wonder that no one really knows how to do PPBS in education.

The RCM methodology circumvents the dead end of attempting to rationally link inputs to specific goals and objectives by acknowledging the inevitable subjectivity of these decisions and by centering the debate around the specification of the types of educational programs that should be offered and the types and levels of resources that should be assigned to each, given the overall resource limits under which the district must operate. This exercise forces participants to <u>implicitly</u>

consider the outputs that they believe will be associated with alternative resource specifications, e.g. the equity and efficiency inherent in providing an aide for program X and not for program Y. Thus, it forces the implicit linkage of inputs to the general notion of outputs without becoming inextricably mired in the delineation of exactly what these outputs are or should be.

Perhaps the most important strength of the RCM methodology, which will serve as the basis of the LPBM design, is that it is not a transplant from the private sector or some other public sector agency, but has been designed specifically for use with education. Thus, it need not be force-fit into the educational sector. Lastly, although it implicitly links inputs to outputs, it does not require the explicit specification of educational goals and objectives.

A second distinction of importance between the RCM methodology and PPBS and ZBB is that the RCM is much more of a framework designed to inform allocation decisions than the more rigid technologies that these other two models represent. This rigidity is especially evident in PPBS with its insistence that budgeting be linked with planning, its considerable training component and cadre of technical analysts. There are few qualms concerning the general upheaval to existing systems that results from the introduction of this approach. Clearly, the throwing out of the old is a fundamental element of this methodology. ZBB is less rigid and is espoused by one of the chief pioneers to be a process which must be adapted to the specific needs of each organization. It is less disruptive to the infrastructure of organizations and is generally more easily implemented. The underlying rationale, that every organizational function must justify its funding, or mission, every year from the ground up, however, is a value that the model imposes on organizations and one that may be threatening to some key organizational actors.

The RCM treats the allocation of resources as much more of an open question. It is primarily designed to inform allocation decisions rather than to orient them in one direction or another. As such, it need not threaten, but may simply inform existing systems. As a technical tool, it may simply bring much more information to bear to the organizational decision making processes already in place. As a much more malleable model that may be useful to budgeters and planners using a wide variety of budgeting and planning approaches, it is much more likely to lead to mutual adaptation, a condition that Berman and McLaughlin describe as essential to lasting change in education. As opposed to the introduction of a fixed technology, mutual adaptation is a condition in which the reform technology and the existing system undergo some transformation to bring lasting change.

Third, beyond the need for mutual adaptation, the general design of the RCM approach to educational resource allocation has profitted considerably from the implementation effort in Illinois and draws on the implementation literature generally. One clear message from this literature is that in the educational sector, where the technology is not well understood, it can not be expected that the prima facie merits of an innovation will serve as its own brief. In education, for example, adoption does not insure change and may not even be the major step in the change process. Thus, a considerable implementation effort has been incorporated as part of the general RCM methodology.

A fourth way in which the RCM methodology differs from the other rational perspectives that have been introduced is that it includes a specific computer tool for simulating a variety of resource allocation situations. Rather than promising a wide range of benefits from adoption, such as a better linkage between budgeting and planning or the reduction of budgets, this tool allows the simulation of a wide variety of investment alternatives so that the cost implications of each may be considered in the expansion, reduction or simply more efficient use of

available resources. This program adds a power to decision processes that was impossible prior to the computer age. This capability brings a wide range of information to bear on the subjective decisions that must be made by educational policy makers.

In summary, the advantages of the LPBM for education over prior rational modeling techniques are in its design to specifically accomodate the vagaries of the educational production process and in its design as a decision making framework rather than whether it embodies the more rigid characteristics of a technology. Furthermore, it has an implementation orientation and its computerized feedback loop adds considerable power to the subjective decision context that is inevitable to educational settings.

In response to some of the other problems associated with attempts to introduce PPBS and ZBB into educational settings, because the RCM circumvents requirements to specify educational outcomes, the required investment in personnel time and energy will be substantially diminished. As it does not require a cadre of analysts and does not require broad-based extensive training efforts, the expense of the system can also be expected to be considerably less than that of PPBS. Considering the expense to the research team only, for example, the model was implemented for the entire state of Illinois at a cost that barely exceeds the predicted annual cost of PPBS in a school district of 25,000 students. In addition, the relative simplicity of the RCM model is indicated by comparing the 58 goals specified for <u>just</u> the primary math program up to the second grade in <u>one school district</u> in California under PPBS, to the total of 160 educational configurations established across <u>all</u> education program categories for the <u>entire state</u> of Illinois under the RCM methodology. Finally, the tension observed under PPBS between planners and budgeters when these two functions were inextricably bound together should be considerably diminished under an RCM-type approach. As opposed to the "shot-gun wedding" mandate of PPBS

which forces the marriage of these two functions, the RCM simply provides a methodology that allows the two functions to work in greater harmony through the provision of an information tool that will prove useful in both of these areas.

2. Strengths of Past Reforms That Will Also Be Associated with the Local Planning Model

Perhaps the greatest strength attributed to PPBS is its emphasis on alternatives. This is also a strong characteristic of the RCM concept. Districts will be better able to consider the cost implications in selecting the programs they will fund from the broad range of alternative programs that they could fund, or may wish to fund. Beyond this, a broad range of alternative service patterns may be considered in determining the resource configurations that should be assigned to the programs that will be funded, i.e once it is determined that a program will be offered, how should this program be equipped? What alternative program configurations might be derived and what are the cost-benefit implications of each? What appears to be the most efficient way to provide a given educational offering?

As with PPBS and ZBB, the process inescapably leads to the consideration of outcomes in the process of allocating resources. Although the RCM methodology makes no provision for listing outcomes in any form, the requirement to select appropriate resource configurations for each of the educational programs the district will offer automatically ties the consideration of outputs to the process. The only criteria on which these decisions can ultimately be made, apart from the overall level of resources available to the district, are subjective beliefs about the impact alternative assignment patterns will have for educational outcomes. Thus, the RCM methodology is also outcome oriented and is a process which forces a linkage between the allocation of resources and the implicit goals and objectives of the district.

A third strength of PPBS that would be an anticipated outcome of the RCM process is the enhancement of participatory management. While decentralization, per se, is not a mandatory component of the model, certainly the opportunity for a much more diffuse decision making structure is embodied in the concept. Theoretically, the program specifications that the model requires could be kept very simplistic and could all be made in the central office by a few top administrators. This would not necessarily diminish the usefulness of the model as a budgeting or planning tool for the district. For the district inclined to move toward a broadened base of decision making, however, the opportunity to include a broad representation from the district, or even perhaps from the community, is clearly present. To the extent that teachers and program specialists are involved in this process a greater congruence may be formed between those responsible for developing the budget and those responsible for the delivery of services. The degree of decentralization that a district would actually employ in conjunction with the RCM model would probably be best determined on the basis of the district's goals and objectives in this regard as well as its history and tradition.

Fourth, as described above, the RCM concept constructs a bridge between the budgeting and planning functions of the district. Although these two functions are not forced into congruence, the resource implications of planning projections based on such factors as demographic projections can be forecast through the use of the simulation model and incorporated into current budgets if deemed appropriate and necessary. Similarly, the implications for the future of current allocation decisions may also be forthcoming through the use of this model.

Last, a strength associated with ZBB is that it forces the consideration of alternative funding levels. When resource projections

prove to be inaccurate, alternative funding levels as well as their implications for programs can quickly be evaluated as they have already been laid out as part of the ZBB budget formation process. Similarly, the RCM methodology allows the rapid consideration of how revenue windfalls or reductions may impact or should impact on educational programs through its decision making procedural framework and the capacity of the simulation program.

C. Potential Areas of Vulnerability for the LPBM in Light of the PPBS and ZBB Experiences

Many of the symptomatic problems and the eventual failure of PPBS and ZBB in education are likely to have resulted from their inappropriateness for the educational setting and from their rigidity. Although it has been shown that the LPBM attempts to account for these shortcomings in its basic design, some areas of potential difficulty can still be identified in the implementation of the LPBM.

The first ingredient essential to the adoption of a change strategy in education is the presense of a strong basic conceptual approach to the perceived problem. It is believed that the RCM provides the conceptual basis for informing and enhancing school district budgeting and planning processes. The next crucial step is an appropriate implementation strategy. Irrespective of the conceptual weaknesses attributed to previous rational models in education, their doom was probably sealed by their shortcomings in implementation. As noted above, such factors as lack of support from top administrators, inadequate resources, unprepared staff and unrealistic time lines were instrumental to their failure and probably are the kinds of problems that pose the greatest threat to the success of the proposed Local Planning Model. Thus, our attention will be focused on the potential implementation hurdles and on how they may be overcome. Although the full RCM design embodies a considerable implementation component, a strategy appropriate to the local level should be considered.

First, and perhaps foremost, is the mutual adaptation that has been found to accompany successful change efforts in education. As has been described, the RCM concept is more of a framework for informing budgeting processes than a rigid process in and of itself. We have also described some of the ways that this process has profitted from the state-level Illinois implementation effort. The Illinois experience may also harbor some potential dangers, however,in forging a strategy appropriate to the local level. There may be a danger, for example, in assuming that the lessons learned at the state level will automatically apply to a local setting.

To the extent that the project enters the local level of decision making with a set of preconceived notions as to how the process component of this methodology should be structured, constraints may unwittingly be imposed on the natural evolution of a process that is more characteristic of mutual adaptation and which will be more suitable to the history, tradition, wants and needs of local level planners and budgeters. An example of this problem may be represented by the vast committee structure that was employed in Illinois very successfully to specify and negotiate the final program descriptions that emerged from that effort. It is natural to imagine that analogous committees will be essential to the successful implementation of this concept at the local level. As the politics, goals and objectives and overall environment at the local level may vary substantially from district to district and can clearly be expected to be different from that found at the state level, however, a very different process for the specification of the data required by the model may evolve. In implementing this process at the local level, a fine line will have to be drawn between arriving with fixed notions and arriving without any ideas at all. That is, while it is important that the implementors appear to know what they are doing, it is equally important that they not be locked into a single conception of how things must be done.

A second important implementation caveat is the requirement for time and resources beyond that normally predicted. This observation leads to another strong observation from the implementation literature. Things must be kept as simple as possible. Together these characteristics suggest that simplicity is not only an imperative component to success generally, but is also important in keeping the resource and personnel requirements from becoming excessive to the point of failure. Thus, a complicated methodology is not only likely to decrease the probability of success, in and of itself, but will also increase the normal strain that can be expected in attempting to aggregate resources sufficient for successful implementation.

The message for the implementation of the LPBM may be that the introduction of many of the capabilities of the computer model and the methodology should be reserved to some later date when the model is more comfortably established as being of use to the district. Once again, a balance will be important. Without overwhelming participants with all of the things that the model can do, it is important that enough complexity be introduced to ensure that the model will be useful. This may be best accomplished by attempting to implement only what is considered to be the most essential components of the model and to allow its more complex manifestations to be introduced only as the need for them naturally occurs. In this way the model will not appear overwhelming, but will also appear sophisticated enough to do what is deemed important at the local level.

A third precaution is that the model must not be thrust upon potential participants. Its potential usefulness must be demonstrated at the onset and there must be a demand for this kind of technology from within the district. This is important for at least two reasons. The first is that without a relatively high level of administrative commitment, when the crunch comes and more time and resources are

required than the local participants anticipated, they will be forthcoming. A withdrawal of support or only token support at the time of the inevitable pinch will seal the doom of the project. Second, high echelon support must be forthcoming to add legitimacy to the process. A message must be forthcoming to the lower level participants that the time and effort that they are expending are of potential consequence and may eventually have an impact on the way the district allocates resources.

Fourth, to even the most far-sighted of superintendents, the LPBM will be greeted with some skepticism. None will dismiss the possibility that it is just another black hole into which resources and high expectations are sucked up, never to be seen again. Any investment of local resources will be seen as a gamble. Thus, the resource demands must be kept as reasonable as possible. Do not plan for, ask for, or expect a high level of district support at the onset. First, strive to establish the usefulness of the model. If it does, indeed, prove to meet district needs, a higher level of commitment will follow.

Fifth, beyond skepticism, the general organizational state of inertia will have to be overcome. This will probably not be broken by presenting the model as an elixir for all of the district's ills or even a better model than what is already in place. A challenge to the existing system may only reinforce the ramparts of resistance to change. Rather, the model may best be promoted as a device for enhancing the present system. If it can be shown to be a tool enabling the district to continue what is already being done in a better, more efficient manner, rather than an alternative to the present system, it would be expected that the model would be greeted more warmly by more elements of the organization and would have a greater chance for success. This approach will require additional homework on the part of the implementor, who must gain a strong grasp of current district procedures. This will require active involvement in the district at the

onset of the implementation effort.

Last, if the purpose of the implementation effort is to be mutual adaptation, where the process accompanying the model evolves to meet local need, then a "fixer" must be assigned to the effort. This is Bardach's (Bardach, 1977) term for some person or persons who will guide the dynamics of the process. Efforts to implement a reform are generally viewed as potentially beneficial for the organization. It will be an opportunity to express a wide assortment of pent-up demands. However, as such, numerous attempts to scuttle or reorient the thrust of the implementation effort can be expected. If the LPBM is to be successfully implemented in a school district, someone must assume the responsibility for guiding and administering the process so that the course can be maintained when possible, altered when necessary, and eventually lead to some desirable conclusion.

IV. Conclusion

For the most part PPBS and ZBB have failed as potential budget reforms for education. Their requirement to specifically delineate outcomes may have made this failure inevitable. As the LPBM is based on a methodology designed specifically for education, it appears a much more likely candidate for success. The large number of implementation failures associated with the ZBB and PPBS experience, however, appear to be at least equally responsible for their downfall. In fact, their implementation problems appear to have been sufficient to insure their dismissal regardless of the soundness of their conceptual underpinnings. It is in this area that the LPBM may have the most to learn from the failures of the past.

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